Application No.: 10/623,356

Amendment dated: 10/11/2005

Reply to Office Action of: July 8, 2005

**Amendments to the Claims:** 

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** 

1. (currently amended): A vacuum cleaning machine comprising a cannister having

an inlet port and at least two outlet ports, at least two filters disposed inside of said cannister, one

in pneumatic communication through a corresponding one of each of said outlet ports, a vacuum

source, at least two valves disposed outside of said cannister, each said valve being in pneumatic

communication between said vacuum source and a corresponding one of each of said outlet ports

and permitting air to be drawn by said vacuum source from said inlet port simultaneously

through corresponding ones of said filters and means for sequentially operating said valves to

switch said filters from connection to said vacuum source to connection to ambient air and

permitting ambient air to be intermittently drawn through corresponding ones of said valves and

said filters which are connected to ambient air by said vacuum via corresponding ones of said

valves and filters which are connected to said vacuum into said cannister.

2. (original) A vacuum cleaning machine according to claim 1 further comprising

means cooperable with said inlet port to divide said cannister into an upper zone of high velocity

2

vortex air flow and a lower zone of reduced velocity air flow.

Reply to Office Action of: July 8, 2005

3. (original) A vacuum cleaning machine according to claim 2, said inlet port being

disposed below said filter and above a bottom of said cannister and said cooperable means

comprising a duct directing air flow downwardly in said cannister from said inlet port and a

baffle redirecting said downward flow to a circumferential flow.

4. (original) A vacuum cleaning machine according to claim 1, said operating

means having means for setting a cycle time of said sequential valve operation.

5. (original) A vacuum cleaning machine according to claim 1, said operating

means having means for setting said intermittent time of connection to ambient air for each said

filter.

6. (original) A vacuum cleaning machine according to claim 1, said operating

means having means for setting a cycle time of said sequential valve operation and means for

setting said intermittent time of connection to ambient air for each said filter.

7. (original) A vacuum cleaning machine according to claim 1, each said valve

comprising a housing having a continuously open port and two reciprocally opened and closed

ports therethrough, a piston reciprocally disposed between said two ports and means biasing said

piston to simultaneously close one of said two ports and open another of said two ports.

8. (original) A vacuum cleaning machine according to claim 7, said operating

means further comprising means for overcoming said bias to move said piston to simultaneously

open said one of said two ports and close said another of said two ports.

Reply to Office Action of: July 8, 2005

9. A vacuum cleaning machine according to claim 8, said bias (original) overcoming means comprising at least two solenoids, one corresponding to each said valve, and means for energizing said solenoids to switch said valves to connect said filters to ambient air

and for de-energizing said solenoids to switch said valves to connect said filters to said vacuum

source.

**10.** (currently amended) A vacuum cleaning machine comprising a cannister having

an inlet port and three outlet ports, three filters disposed inside of said cannister, one in

pneumatic communication through a corresponding one of each of said outlet ports, a vacuum

source, three valves disposed outside of said cannister, each said valve being in pneumatic

communication between said vacuum source and a corresponding one of each of said outlet ports

and permitting air to be drawn by said vacuum source from said inlet port simultaneously

through corresponding ones of said filters and means for sequentially operating said valves to

switch said filters from connection to said vacuum source to connection to ambient air whereby

ambient air is intermittently drawn sequentially through corresponding ones of said valves and

said filters which are connected to ambient air by said vacuum via corresponding ones of said

valves and filters which are connected to said vacuum into said cannister.

11. (original) A vacuum cleaning machine according to claim 10 further comprising

means cooperable with said inlet port to divide said cannister into an upper zone of high velocity

vortex air flow and a lower zone of reduced velocity air flow.

Reply to Office Action of: July 8, 2005

12. (original) A vacuum cleaning machine according to claim 11, said inlet port

being disposed below said filter and above a bottom of said cannister and said cooperable means

comprising a duct directing air flow downwardly in said cannister from said inlet port and a

baffle redirecting said downward flow to a circumferential

flow.

13. (original) A vacuum cleaning machine according to claim 10, said operating

means having means for setting a cycle time of said sequential valve operation.

14. (original) A vacuum cleaning machine according to claim 10, said operating

means having means for setting said intermittent time of connection to ambient air for each said

filter.

15. (original) A vacuum cleaning machine according to claim 10, said operating

means having means for setting a cycle time of said sequential valve operation and means for

setting said intermittent time of connection to ambient air for each said filter.

16. (original) A vacuum cleaning machine according to claim 10, each said valve

comprising a housing having a continuously open port and two reciprocally opened and closed

ports therethrough, a piston reciprocally disposed between said two ports and means biasing said

5

piston to simultaneously close one of said two ports and open another of said two ports.

Reply to Office Action of: July 8, 2005

17. (original) A vacuum cleaning machine according to claim 16, said operating means further comprising means for overcoming said bias to move said piston to simultaneously open said one of said two ports and close said another of said two ports.

18. (original) A vacuum cleaning machine according to claim 17, said bias overcoming means comprising at least two solenoids, one corresponding to each said valve, and means for energizing said solenoids to switch said valves to connect said filters to ambient air and for de-energizing said solenoids to switch said valves to connect said filters to said vacuum source.

19. (original) A vacuum cleaning machine comprising a cannister having an opening in a top thereof and an inlet port, a plate closing said opening, said plate having three outlet ports, three filters mounted on said plate and disposed inside of said cannister, one in pneumatic communication through a corresponding one of each of said outlet ports, a vacuum source, three valves mounted on said plate and disposed outside of said cannister, each said valve having a first port in continuously open pneumatic communication with a corresponding one of said outlet ports, a second port in pneumatic communication with said vacuum source and a third port in pneumatic communication with a source of ambient air, a piston reciprocally disposed between said second and third ports, a coil spring biasing said piston to simultaneously close said third port and open said second port in a vacuum mode and a solenoid for overcoming said bias and reciprocating said piston to simultaneously close said second port and open said third port in a backflush mode and means for operating said valves to sequentially switch said filter from communication with said vacuum source to communication with ambient air for a preset time.

6

Reply to Office Action of: July 8, 2005

20. (original) A vacuum cleaning machine according to claim 19, said operating means having means for setting a cycle time of said sequential valve operation and means for setting an intermittent time of connection to ambient air for said filters.